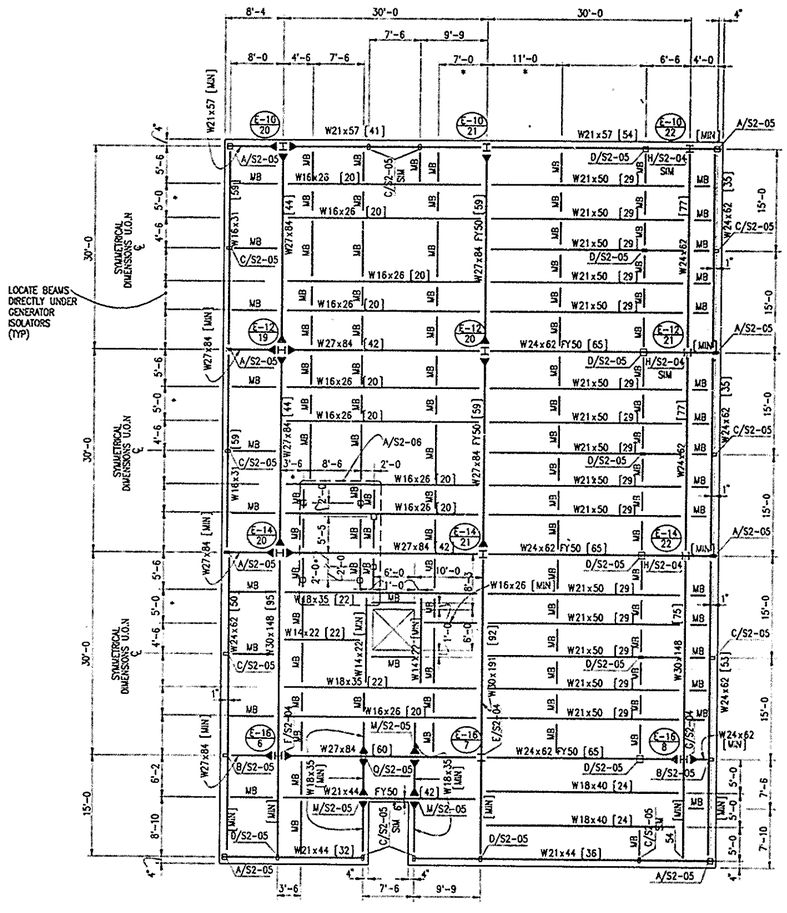
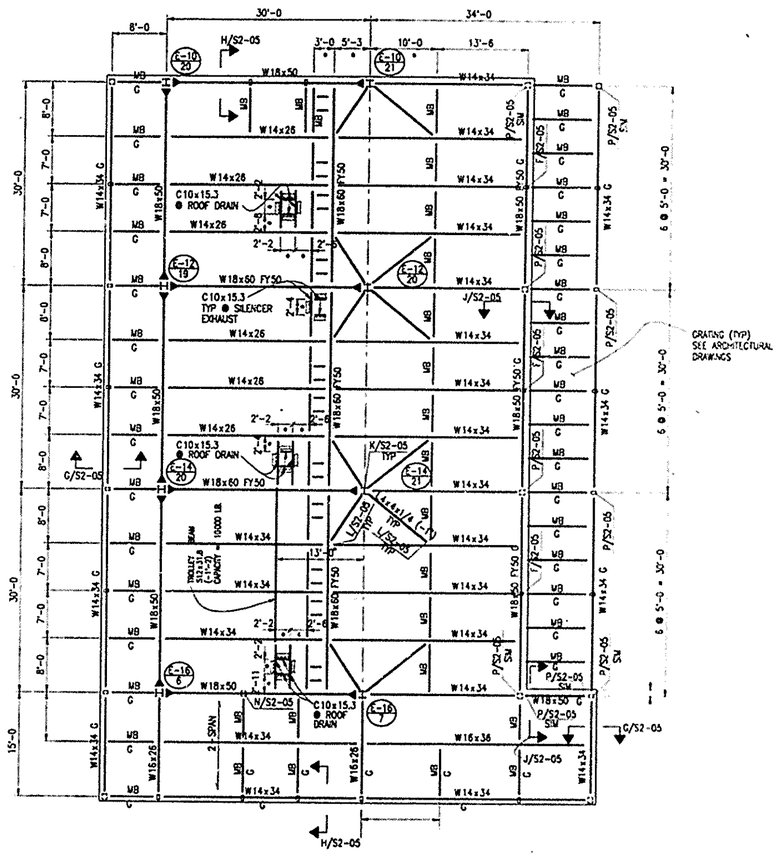


BULKHEAD FRAMING

REF EL = 444'-8

NOTES:

1. TOP OF CONCRETE IS AT REFERENCE ELEVATION U.O.N THUS (XXX).
2. TOP OF STRUCTURAL STEEL IS (-6") BELOW REFERENCE ELEVATION U.O.N THUS (XXX).
3. NEW FLOOR CONSTRUCTION IS 4" LIGHTWEIGHT CONCRETE (FC = 4000 PSI) OVER 2" COMPOSITE STEEL DECK, TYPE 01, U.O.N.
4. STEEL DECK IS 18 GAGE MINIMUM FOR 2 OR 3 SPAN CONDITION. STEEL DECK IS 16 GAGE MINIMUM FOR 1 SPAN CONDITION, FOR SPANS GREATER THAN 7'-9 AND SMALLER THAN 8'-10. STEEL DECK SPANS NORTH/SOUTH UNLESS NOTED ——
5. STRUCTURAL STEEL BEAMS SHALL BE FY36 U.O.N AS FY50
6. NUMBER OF 3/4"ø x6" LONG STUD SHEAR CONNECTORS APPLIED TO THE TOP FLANGE OF BEAM IS NOTED THUS [XX].
7. WB = MINIMUM BEAM, W12x16 FY36, STUDS = [MIN] U.O.N.
8. DIMENSIONS WITH ⊕ NEED BE VERIFIED AND ADJUSTED AS NEEDED ONCE ACTUAL EQUIPMENT IS SELECTED. ADJACENT DIMENSIONS NEED BE ADJUSTED ACCORDINGLY.
9. WIDE FLANGE I STRUCTURAL STEEL COLUMNS ARE W14x109 FY50 U.O.N; SQUARE POST C... JNS ARE TS 6x6X1/4 FY46 U.O.N; FOR POSTS AROUND PERIMETER SEE S2-03.

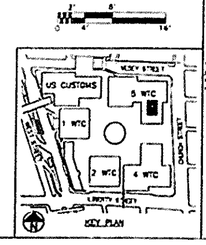


BULKHEAD ROOF FRAMING

REF EL = 456'-10

NOTES:

1. TOP OF STRUCTURAL STEEL IS AT REFERENCE ELEVATION U.O.N. THUS (XXX).
2. ROOF CONSTRUCTION IS 1-1/2" DEEP ROOF DECK, 18 GAGE MIN. U.O.N. USE 4-SPAN DECK SPANNING THE NORTH/SOUTH DIRECTION U.O.N.
3. STRUCTURAL STEEL SHAPES SHALL BE FY36 U.O.N AS FY50
4. WB = MINIMUM BEAM, W12x16 FY36, STUDS = [MIN] U.O.N.
5. DIMENSIONS WITH ⊕ NEED BE VERIFIED AND ADJUSTED AS NEEDED ONCE ACTUAL EQUIPMENT IS SELECTED. ADJACENT DIMENSIONS NEED BE ADJUSTED ACCORDINGLY.
6. WIDE FLANGE I STRUCTURAL STEEL COLUMNS ARE W14x109 FY36 U.O.N; SQUARE POST COLUMNS ARE TS 6x6X1/4 FY46 U.O.N; FOR POSTS AROUND PERIMETER SEE S2-03.
7. STRUCTURAL STEEL ABOVE PENTHOUSE FLOOR SHALL BE PAINTED WITH A ZINC-RICH SHOP PRIMER. STRUCTURAL STEEL NOTED "G" SHALL BE GALVANIZED.



Sheet 32 of 112

THE PORT AUTHORITY OF NY & NJ

CONFORMED DRAWING
02/03/98
SIGNED AND SEALED
COPY IS KEPT ON FILE

ORIGINAL SIGNED & SEALED BY N.Y. PE (OR P.A.)

Joseph R. Loring & Associates, Inc.
consulting engineers
One Pennsylvania Plaza
New York, New York 10119-0045
Tel (212) 563-7400, Fax (212) 563-7382

THE OFFICE OF DAVID ELLIOT LIEBOWITZ PC
ARCHITECTS + PLANNERS
39 WEST 19TH STREET NEW YORK NY 10011
TEL 212-645-5700 FAX 212-675-1265

LESLIE E ROBERTSON ASSOCIATES, R.L.L.P.
CONSULTING STRUCTURAL ENGINEERS
30 EAST 40TH STREET
NEW YORK, NY 10016-0005
TEL 212-532-3200 FAX 212-683-2000

No	Date	Revision	Approved
1	11/17/97	ISSUED FOR BID	

Engineering Department
Design Divisions

The World Trade Center

Title
STANDBY POWER
5 WORLD TRADE CENTER

STRUCTURAL

5 WTC BULKHEAD FLOOR AND ROOF PLANS

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

MVS	BAZ	RZ
Designed by	Drawn by	Checked by

Date 11/17/97
Scale AS NOTED
Contract Number WTC-945.071
Drawing Number S2-02